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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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09/449,762 11/26/99 LEE

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| EXAMINER |
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MMC2/0119

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RD, B

| ART UNIT | PAPER NUMBER |
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2837

DATE MAILED:
01/19/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/449,762

Applicant(s)

Lee

Examiner

Bentsu Ro

Group Art Unit

2837



☒ Responsive to communication(s) filed on Oct 24, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-6 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☒ Claim(s) 4-6 is/are allowed.

☒ Claim(s) 1 and 2 is/are rejected.

☒ Claim(s) 3 is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

SECOND OFFICE ACTION -- A NONFINAL REJECTION

1. Applicant's amendment to the specification is acceptable and has been entered. The objection to the disclosure set forth in paragraphs 1 and 3 of the first office action is therefore withdrawn.

2. Applicant's argument of proper continuity with prior applications: SN 08/221,375 and SN 08/416,558 is convincing. Therefore, this application will receive the benefit of an earlier filing date. The objection set forth in paragraph 2 of the first office action is also withdrawn.

3. The rejection to claims 3 and 5 under 35 USC 112, second paragraph, set forth in paragraph 4 of the first office action is withdrawn because:

- claim 5 has been amended; and
- claim 3 does not have any inconsistent problem with claim 1.

4. The comparison table shown in pages 7-18 of the amendment provides a basis for interference as required by 37 CFR §1.607 (a). However, interference can be initiated only when all claims are allowable. For the time being, there will be no interference because not all claims are allowable. See the following rejection to claims 1 and 2.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by **Reeds US Patent No. 4,891,526**. (This is not a new reference, this reference is cited by applicant in PTO-1449, sheet #4 of 5 pages, filed 3/2/2000, paper No. 4.)

Reeds teaches the same subject matter as claimed, see the following comparison.

The claims:

Claim 1. A positioning device with an object table

Reeds teaching:

Reeds teaches a positioning device;
Figs. 1 and 3 both show an x-y stage plate 12 which is an object table;

and a drive unit by which the object table is displaceable

over a guide parallel to at least an x-direction,

which guide is fastened to a first frame of the positioning device

while a stationary part of the drive unit is fastened to a second frame of the positioning device

which is dynamically isolated from the first frame,

Fig. 3 shows an x-drive motor 61 and a y-drive motor 36;

Fig. 3 also clearly shows the drive motors 61 and 36 displacing the stage plate 12 via driving bars 68 and 50, respectively;

Fig. 1 shows linear bearings 14a, 14b, 18a, 18b;
the linear bearings 14a and 14b move in the x-direction, therefore, bearings 14a and 14b are parallel at least to x-direction;

these linear bearings 14a, 14b, 18a, 18b are all fastened to a θ -stage platform 20 as clearly shown in Fig. 1, therefore, the θ -stage platform 20 is a first frame;

Fig. 7 shows a y-drive motor 36 mounted on a base 28, therefore, the base 28 is a second frame;

Fig. 1 shows the relative position of the base 28, the platform 20 and the linear bearings 14a, 14b, 18a, 18b;

column 5, lines 1-7 states that the three drive mechanisms (x, y, θ) are very similar; specifically, lines 6-7 states that "a y-drive motor 36 is mounted on a flange 38 which is secured to the bottom of base 28.";

Fig. 3 shows the similarity of the x, y, θ -drive mechanisms (i.e. drive motors 61, 36, 83);

Fig. 1 shows the dynamical isolation of the base 28 (the second frame) from the θ -stage platform 20 via a vertical adjustable flexible mount 26a;

column 9, lines 4-8 describes the spring constant of the flexible mounts 26;
lines 21-26 describes the minimization of reaction force impact by selecting three proper support points;

wherein a reaction force exerted by the object table on the drive unit during operation and arising from a driving force exerted by the drive unit on the object table is transmittable exclusively into the second frame.

Claim 2. A positioning device as claimed in claim 1, wherein the object table is coupled to the stationary part of the drive unit

exclusively by a Lorentz force of a magnet system and an electric coil system of the drive unit during operation.

because the drive motors 61 and 36 (Fig. 3) are mounted on the base 28 (the second frame, see Fig. 1), the reaction force exerted by the object table on the drive motors 61, 36 as well as the driving force exerted by the drive motors on the stage plate 12 is transmittable exclusively into the base 28 (the second frame).

the stationary part of the drive unit reads onto the stators of the motors 61 and 36, see Fig. 3;
the x-y stage plate 12 is coupled to the stator of the motors 61, 36 via the drive bars 68, 50, the capstans 62, 44 and the rotors of the motors (no reference numeral);

the rotor contains a magnet system whereas the stator contains an electric coil system (this is a conventional motor structure); the motor rotates via the interaction of Lorentz force produced by the magnetic flux of the rotor and the magnetic flux of the stator (this is a basic principle of motor operation).

7. Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claims 4-6 are allowable.

9. It is noted that claims 1, 2, 3, 4, 6 of this instant application are copied claims from claims 1, 2, 3, 10, 11 respectively of the US Patent 5,844,666. As mentioned earlier, there will be no initiation of interference because not all claims are not allowable. Interference can be established only when all claims are allowable. However, in the near future, there may be an interference between the two parties.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Application/Control Number: 09/449,762
Art Unit: 2837

Page 5

11. Any inquiry concerning this communication should be directed to Bentsu Ro at telephone number (703) 308-3656.

December 20, 2000

Bentsu Ro
BENTSU RO
PRIMARY EXAMINER

Approved

Stewart J. Levy, Director
Technology Center 2800
Group 2830